

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) ~~A~~An amplification circuit~~transistor~~, comprising:
 - an insulating substrate;
 - a first metal film disposed on the insulating substrate, the first metal film having a first surface and a second surface;
 - a second metal film disposed on the insulating substrate;
 - a third metal film disposed on the insulating substrate;
 - a first layer, which is arranged on the first metal film and which is made of an N-type semiconductor which is electrically coupled to the first metal film, the first layer having a third surface and a fourth surface;
 - a second layer, which is disposed on the first layer and which is made of a P-type semiconductor, the second layer having a fifth surface and a sixth surface; and
 - a third layer, which is disposed on the second layer and which is made of an N-type semiconductor, the third layer having a seventh surface and a eighth surface;
 - the first surface being in contact with the insulating substrate,
 - the third surface being in contact with the second surface,
 - the fifth surface being in contact with the fourth surface,
 - the seventh surface being in contact with the sixth surface,
 - thea second metal film being in contact with the sixth surface, which is disposed on the insulating substrate in such a manner as not to be brought into contact with the first metal film, but which is brought into contact with the second layer; and

~~the~~ a third metal film being in contact with the eighth surface~~which is disposed on the insulating substrate in such a manner as not to be brought into contact with the first metal film and the second metal film, but which is brought into contact with the third layer.~~

2. (Currently Amended) The ~~transistor~~ amplification circuit according to Claim 1,

the first layer functioning as a collector,
the second layer functioning as a base, and
the third layer functioning as an emitter.

3. (Currently Amended) The ~~transistor~~ amplification circuit according to Claim 1,

the first metal film functioning as collector wiring,
the second metal film functioning as base wiring, and
the third metal film functioning as emitter wiring.

4. (Currently Amended) The ~~transistor~~ amplification circuit according to Claim 1,

the second layer being formed on the entire top surface of the first layer, and
~~and~~ the third layer is being formed on a part of the area of the top surface of
the second layer.

5. (Currently Amended) The ~~transistor~~ amplification circuit according to Claim 1,

the first layer and the second layer being each formed in a rectangular plate
shape, and

the third layer being formed in a rectangular plate shape, ~~which~~ a length of a
short side of the third layer being~~is no longer and narrower~~ shorter than that of the first layer
and the second layer.

6. (Currently Amended) The ~~transistor~~ amplification circuit according to Claim 1, the first layer, the second layer, and the third layer being formed so as to cross on the top surface of the first metal film.

7. (Currently Amended) The ~~transistor~~ amplification circuit according to Claim 1, the first layer, the second layer, and the third layer being formed of layers that are formed as tile-shaped elements, which are very small tile-shaped semiconductor elements.

8. (Currently Amended) The ~~transistor~~ amplification circuit according to Claim 7, the tile-shaped elements being such that a collector electrode is formed on the bottom surface of the first layer, a base electrode is formed in an area other than the area where the third layer is provided on the top surface of the second layer, and an emitter electrode is formed on the top surface of the third layer, and

the collector electrode in the tile-shaped elements is joined to the first metal film, the base electrode is joined to the second metal film, and the emitter electrode is joined to the third metal film.

9. (Currently Amended) The ~~transistor~~ amplification circuit according to Claim 1, the transistor being formed of a transistor that functions as a hetero-bipolar transistor.

10. (Currently Amended) The ~~transistor~~ amplification circuit according to Claim 9,

the first layer being an N-type semiconductor made of gallium and arsenic, the second layer is a P-type semiconductor made of gallium and arsenic, and the third layer is an N-type semiconductor made of aluminum, gallium, and arsenic.

11. (Currently Amended) The ~~transistor~~ amplification circuit according to Claim 1,

a plurality of the first layers being provided on the ~~one~~ first metal film, and
the second layer and the third layer being provided for each of the first layers.

12. (Currently Amended) The ~~transistor~~ amplification circuit according to
Claim 11,

a plurality of the second layers being interconnected with one another by the
~~one~~ second metal film, and

a plurality of the third layers being interconnected with one another by the ~~one~~
third metal film.

13. (Currently Amended) The ~~transistor~~ amplification circuit according to
Claim 1, the first metal film, the second metal film, and the third metal film do not intersect
one another.

14. (Currently Amended) The ~~transistor~~ amplification circuit according to
Claim 1,

the portion of the second metal film that is not connected to the second layer in
the second metal film being directly provided on the insulating substrate, and

the portion of the third metal film that is not connected to the third layer in the
third metal film being directly provided on the insulating substrate.

15. (Currently Amended) An electronic device, comprising an optical
interconnection circuit having the ~~transistor~~ amplification circuit according to Claim 1.

16. (New) An amplification circuit, comprising:

an insulating substrate;

a first metal film disposed on the insulating substrate;

a second metal film disposed on the insulating substrate;

a third metal film disposed on the insulating substrate; and

a plurality of transistors that overlaps the first metal film,

the plurality of transistors including first layers each of which is included in one transistor of the plurality of transistors, second layers each of which is disposed on one first layer of the plurality of first layers, third layers each of which is disposed on one second layer of the plurality of second layers,

the second metal film including a first part that extends along a first direction along which the first metal film extends and second parts each of which extend along a second direction intersecting the first direction,

the third metal film including a third part that extends along the first direction and fourth parts each of which extends along a third direction intersecting the first direction,

the first metal film being electrically connected to the first layers,

the second metal film being electrically connected to the second layers through the second parts,

the third metal film being electrically connected to the third layers through the fourth parts.

17. (New) The amplification circuit according to Claim 16,

the first metal layer being disposed between the first part and the third part.

18. (New) The amplification circuit according to Claim 16,

the first layers made of N-type semiconductors, the second layers made of P-type semiconductors and the third layers made of N-type semiconductors.